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Data Article

Data on association of ankle pressure and ankle brachial index of symptomatic and contralateral lower extremities with overall and cardiovascular mortality in patients with lower extremity peripheral artery disease



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ABSTRACT

Data on survival curves for overall survival and freedom from cardiovascular death at different ankle brachial index (ABI) and ankle pressure (AP) are shown separately for symptomatic and contralateral lower limbs in 721 patients with lower extremity peripheral artery disease at up to 7 years follow-up. Cox regression analysis with confounding factors for ABI and AP are also shown. Dates and causes of death were collected from the Finnish national statistics registry.

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Specifications Table

Subject area	Medicine
More specific subject area	Vascular surgery
Type of data	Tables, figures
How data was acquired	Retrospective analysis of patient files

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Data format	Raw, analyzed
Experimental factors	Ankle pressure, ankle brachial index
Experimental features	Retrospective analysis of overall mortality and freedom from cardiovascular death
Data source location	Turku University Hospital, Turku, Finland
Data accessibility	Data is with this article
Related research article	Wickström et al. [1]

Value of the data

- Patient cohort consists of 721 patients with symptomatic lower extremity peripheral artery disease
- Analysis of both symptomatic and contralateral ankle brachial index and ankle pressure in relation to patient outcome
- Data may be used for assessing the role of pressure measurements with respect to patient outcome

1. Data

The presented data is acquired from analysis of non-invasive peripheral pressure measurements of patients with clinically symptomatic (Rutherford 2–6) peripheral artery disease [2,3]. Fig. 1A–D shows Kaplan-Meier curves for freedom from cardiovascular death and overall survival at defined ABI categories for both symptomatic and contralateral extremity. Corresponding Kaplan-Meier curves are presented for ankle pressure in Fig. 2A–D. Cox regression analyses with confounding factors for ABI and AP are presented in Table 1.

2. Experimental design, materials and methods

Present data consists of peripheral pressure measurements in 721 symptomatic PAD patients admitted to the Department of Vascular Surgery at Turku University Hospital for digital subtraction angiography between January 2009 and August 2011. Dates and causes of death were collected from the Finnish national statistics registry at the end of the study period. Baseline demographics were collected from electronic patient files.

2.1. Non-invasive peripheral pressure measurements

Standardised peripheral pressure measurements were obtained in a vascular laboratory at Turku University Hospital. A Nicolet VasoGuard (Nicolet Vascular inc., Madison, WI, USA) photoplethysmography (PPG) device was used for all measurements. Measurements were obtained with patients in a supine position with feet at heart level. When stable signals were obtained, brachial and ankle cuffs were inflated until disappearance of the PPG signal. Brachial and ankle pressures were determined by gradual deflation of the cuffs to the moment of reappearance of a pulsatile signal.

2.2. Statistical analysis

All statistical analyses were performed with SPSS version 22 (IBM, Armonk, NY, USA). Survival was assessed by Kaplan-Meier curves and Log-rank statistics. A Cox regression analysis was performed to assess the final predictive value of factors affecting survival. Factors with $P < 0.2$ in Cox univariate analysis were forced into a Cox proportional hazard model to assess the risk of death.

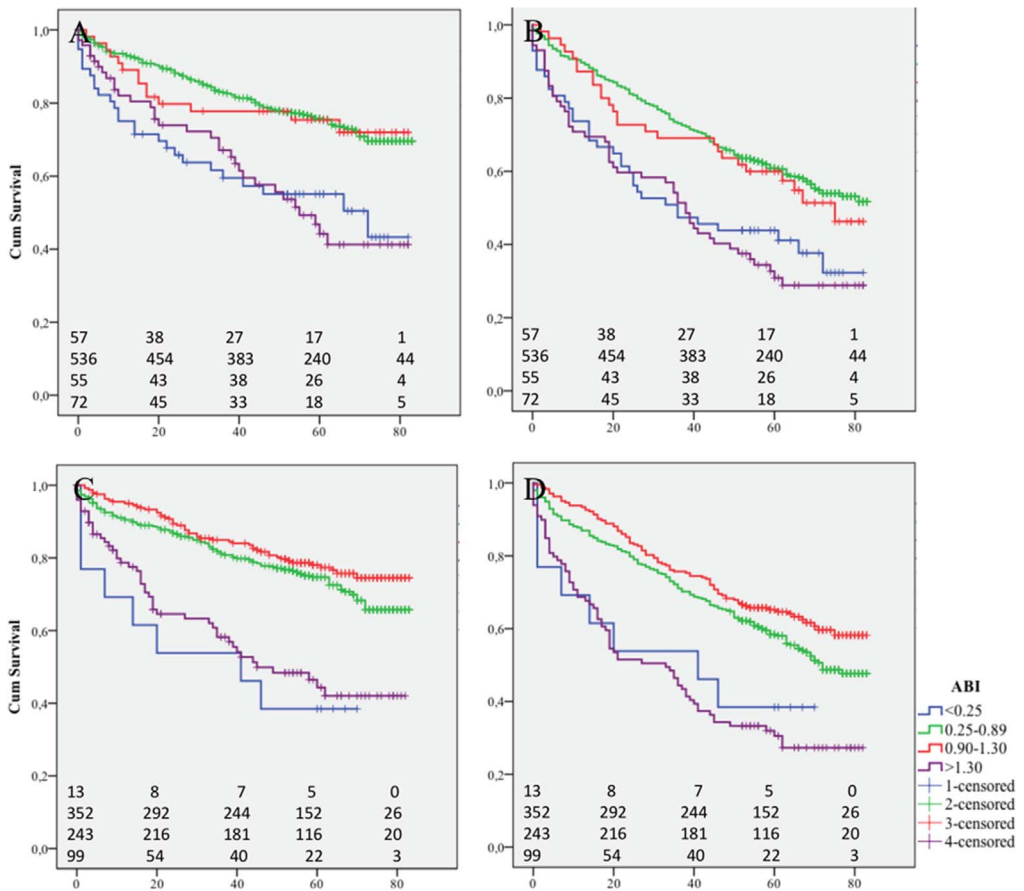


Fig. 1. A–D Kaplan-Meier curves showing A) cumulative freedom from cardiovascular death and B) overall survival by defined ABI categories for symptomatic limb. Corresponding Kaplan-Meier curves showing C) cumulative freedom from cardiovascular death and D) overall survival for contralateral limb. Up to 7 years follow-up. Life tables for 0, 20, 40, 60 and 80 months shown in lower part of the panels. Pairwise (Wilcoxon) comparison between groups: A) ABI < 0.25 vs. 0.25–0.89: $P < 0.001$; vs. 0.9–1.3: $P = 0.018$; vs. > 1.3: $P = 0.665$, ABI 0.25–0.89 vs. 0.9–1.3: $P = 0.594$; vs. > 1.3: $P < 0.001$, ABI 0.9–1.3 vs. > 1.3: $P < 0.001$ B) ABI < 0.25 vs. 0.25–0.89: $P < 0.001$; vs. 0.9–1.3: $P = 0.026$; vs. > 1.3: $P = 0.707$, ABI 0.25–0.89 vs. 0.9–1.3: $P = 0.561$; vs. > 1.3: $P < 0.001$, ABI 0.9–1.3 vs. > 1.3: $P = 0.003$ C) ABI < 0.25 vs. 0.25–0.89: $P = 0.001$; vs. 0.9–1.3: $P < 0.001$; vs. > 1.3: $P = 0.428$, ABI 0.25–0.89 vs. 0.9–1.3: $P = 0.174$; vs. > 1.3: $P < 0.001$, ABI 0.9–1.3 vs. > 1.3: $P < 0.001$ D) ABI < 0.25 vs. 0.25–0.89: $P = 0.061$; vs. 0.9–1.3: $P = 0.012$; vs. > 1.3: $P = 0.817$, ABI 0.25–0.89 vs. 0.9–1.3: $P = 0.061$; vs. > 1.3: $P < 0.001$, ABI 0.9–1.3 vs. > 1.3: $P < 0.001$.

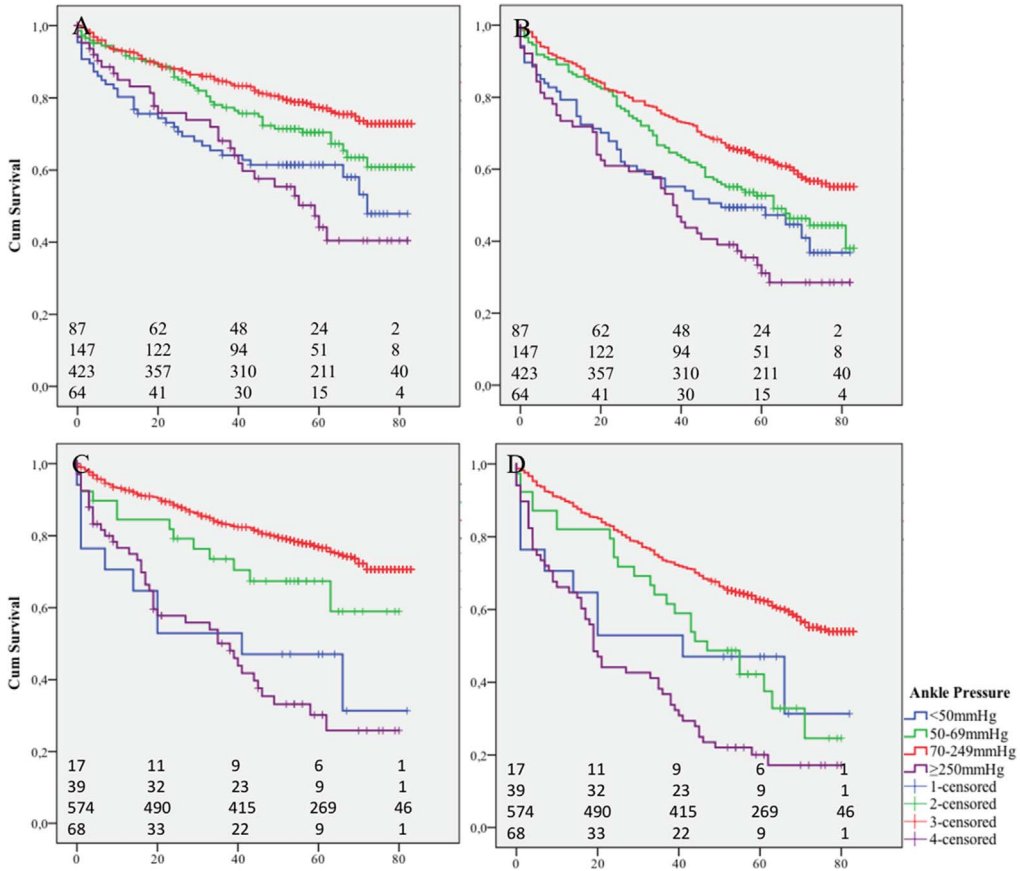


Fig. 2. A-D Kaplan-Meier curves showing A) cumulative freedom from cardiovascular death and B) overall survival by defined AP categories for symptomatic limb. Corresponding Kaplan-Meier curves showing C) cumulative freedom from cardiovascular death and D) overall survival for contralateral limb. Up to 7 years follow-up. Life tables for 0, 20, 40, 60 and 80 months shown in lower part of the panels. Pairwise (Wilcoxon) comparison between groups: A) AP (mmHg) < 50 vs. 50–69: $P = 0.022$; vs. 70–249: $P < 0.001$; vs. ≥ 250 : $P = 0.90$, AP (mmHg) 50–69 vs. 70–249: $P = 0.68$; vs. ≥ 250 : $P = 0.014$, AP (mmHg) 70–249 vs. ≥ 250 : $P < 0.001$ B) AP (mmHg) < 50 vs. 50–69: $P = 0.123$; vs. 70–249: $P = 0.001$; vs. ≥ 250 : $P = 0.263$, AP (mmHg) 50–69 vs. 70–249: $P = 0.20$; vs. ≥ 250 : $P = 0.005$, AP (mmHg) 70–249 vs. ≥ 250 : $P < 0.001$ C) AP (mmHg) < 50 vs. 50–69: $P = 0.076$; vs. 70–249: $P < 0.001$; vs. ≥ 250 : $P = 0.995$, AP (mmHg) 50–69 vs. 70–249: $P = 0.63$; vs. ≥ 250 : $P = 0.008$, AP (mmHg) 70–249 vs. ≥ 250 : $P < 0.001$ D) AP (mmHg) < 50 vs. 50–69: $P = 0.466$; vs. 70–249: $P = 0.025$; vs. ≥ 250 : $P = 0.332$, AP (mmHg) 50–69 vs. 70–249: $P = 0.011$; vs. ≥ 250 : $P = 0.003$, AP (mmHg) 70–249 vs. ≥ 250 : $P < 0.001$.

Table 1

Cox regression analysis for ABI (A) and cardiovascular and overall mortality for symptomatic and contralateral limb. Reference ABI 0.90–1.30. B) Corresponding Cox regression analysis for AP (B). Reference AP 70–250 mmHg. Confounding factors forced into Cox regression analysis were chosen according to their significance ($P < 0.20$) in univariate analysis. CAD: coronary artery disease; HT: hypertension; DM: diabetes, ESRD: end-stage renal disease.

A		HR	95% CI	P value
Cardiovascular	ABI, symptomatic limb			
	Age	0.978	0.965–0.992	< 0.01
	CAD	1.45	1.09–1.92	0.01
	HT	1.27	0.917–1.76	0.15
	DM	1.29	0.967–1.73	0.08
	ESRD	1.50	1.01–2.34	0.04
	Statin use	0.785	0.585–1.05	0.11
	Smoking history	0.474	0.324–0.694	< 0.01
	0.90–1.30	Reference		
	0.25–0.89	1.18	0.679–2.07	0.55
	< 0.25	2.31	1.23–4.37	0.01
	> 1.30	2.80	1.45–5.39	< 0.01
	ABI, contralateral limb			
	Age	0.984	0.971–0.998	0.02
	CAD	1.46	1.10–1.94	< 0.01
	HT	1.28	0.926–1.77	0.14
	DM	1.20	0.898–1.61	0.22
	ESRD	1.58	1.05–2.37	0.03
	Statin use	0.689	0.511–0.929	0.02
	Smoking history	0.494	0.336–0.725	< 0.01
	0.90–1.30	Reference		
	0.25–0.89	1.44	1.03–2.02	0.04
	< 0.25	2.89	1.92–4.34	0.01
	> 1.30	3.46	1.63–7.34	< 0.01
Overall	ABI, symptomatic limb			
	Age	0.978	0.968–0.988	< 0.01
	CAD	1.17	0.937–1.48	0.17
	HT	1.21	0.942–1.54	0.14
	DM	1.07	0.852–1.34	0.56
	ESRD	1.60	1.17–2.19	< 0.01
	Statin use	0.779	0.620–0.980	0.03
	Smoking history	0.573	0.436–0.754	< 0.01
	0.90–1.30	Reference		
	0.25–0.89	1.04	0.690–1.57	0.85
	< 0.25	1.95	1.16–3.25	0.01
	> 1.30	1.97	1.22–3.20	< 0.01
	ABI, contralateral limb			
	Age	0.981	0.971–0.992	< 0.01
	CAD	1.18	0.950–1.48	0.13
	HT	1.21	0.945–1.55	0.13
	DM	1.03	0.819–1.29	0.81
	ESRD	1.69	1.22–2.33	< 0.01
	Statin use	0.701	0.556–0.885	< 0.01
	Smoking history	0.579	0.438–0.763	< 0.01
	0.90–1.30	Reference		
	0.25–0.89	1.41	1.09–1.82	0.01
	< 0.25	2.20	1.06–4.57	0.03
	> 1.30	2.63	1.91–3.63	< 0.01
B		HR	95% CI	P value
Cardiovascular	Ankle pressure, symptomatic limb			
	Age	0.978	0.965–0.992	< 0.01
	CAD	1.47	1.11–1.95	< 0.01

Table 1 (continued)

B				
		HR	95% CI	P value
	HT	1.29	0.931–1.79	0.13
	DM	1.34	0.998–1.79	0.05
	ESRD	1.54	1.03–2.29	0.03
	Statin use	0.760	0.567–1.02	0.07
	Smoking history	0.482	0.330–0.705	< 0.01
	70–249 mmHg	Reference		
	50–69 mmHg	1.63	1.14–2.33	< 0.01
	< 50 mmHg	2.18	1.48–3.22	< 0.01
	≥ 250 mmHg	2.30	1.50–3.52	< 0.01
	Ankle pressure, contralateral limb			
	Age	0.987	0.973–1.00	0.05
	CAD	1.35	1.02–1.80	0.04
	HT	1.24	0.892–1.72	0.20
	DM	1.21	0.901–1.62	0.21
	ESRD	1.51	1.00–2.27	0.05
	Statin use	0.684	0.506–0.924	0.01
	Smoking history	0.504	0.343–0.742	< 0.01
	70–249 mmHg	Reference		
	50–69 mmHg	1.63	0.921–2.90	0.09
	< 50 mmHg	2.93	1.53–5.61	< 0.01
	≥ 250 mmHg	3.39	2.34–4.92	< 0.01
Overall	Ankle pressure, symptomatic limb			
	Age	0.978	0.968–0.989	< 0.01
	CAD	1.18	0.950–1.47	0.13
	HT	1.22	0.955–1.57	0.11
	DM	1.11	0.880–1.39	0.39
	ESRD	1.64	1.20–2.25	< 0.01
	Statin use	0.758	0.603–0.953	0.02
	Smoking history	0.574	0.437–0.853	< 0.01
	70–249 mmHg	Reference		
	50–69 mmHg	1.52	1.16–1.99	< 0.01
	< 50 mmHg	1.70	1.23–2.35	< 0.01
	≥ 250 mmHg	2.11	1.49–2.97	< 0.01
	Ankle pressure, contralateral limb			
	Age	0.982	0.972–0.993	< 0.01
	CAD	1.13	0.904–1.41	0.29
	HT	1.19	0.923–1.53	0.18
	DM	1.03	0.814–1.29	0.82
	ESRD	1.70	1.23–2.35	< 0.01
	Statin use	0.687	0.543–0.870	< 0.01
	Smoking history	0.602	0.456–0.794	< 0.01
	70–249 mmHg	Reference		
	50–69 mmHg	1.82	0.958–3.44	0.07
	< 50 mmHg	1.83	1.21–2.78	< 0.01
	≥ 250 mmHg	2.98	2.18–4.05	< 0.01

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Transparency document. Supporting information

Transparency data associated with this article can be found in the online version at <http://dx.doi.org/10.1016/j.dib.2018.08.041>.

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